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Big Data – Big Ignorance

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In today's society, it is not only the case that people are controlled by others (i.e. that their moves are recorded by video cameras and data related to their lives are collected at every point in their lives); increasingly, people are monitoring themselves and are knowingly or unknowingly allowing various enterprises to collect their data. Although people often "sign" informed consent agreements when they use self-monitoring apps or when they engage with the Internet of things and control their environment from afar, they often ignore the fact that they are allowing corporations and state surveillance apparatuses to use their data in ways that go against their interests. With the vast new knowledge that we are dealing with in these times of big data, there is a concurrent increase in the ignorance pertaining thereto.

This chapter will first analyse the psychological mechanisms that are behind our passion for self-monitoring. Second, it will look at the way corporations exploit these passions. And third, it will address the question of why people so easily ignore the fact that data about their lives is collected which can often be used to their disadvantage.

Self-surveillance in the era of big data

The market is flooded with devices that are supposed to help us navigate our daily lives so that we will become more productive, better organised, fitter, healthier, slimmer, and even less stressed. The expectation is that these devices will help the individual alter his or her life in such a way that it comes closer to the ideals of success and self-fulfilment. Many of the applications that we install on our smart phones rely on the idea that we will achieve these goals with the help of measurements. We can thus measure our calories, walking, running, heartbeat, menstrual cycle, and – during pregnancy – even the heartbeat of our unborn child.

If we think about previous generations, we cannot say that there was a culture of counting how many steps a person walked per day, how many calories he or she consumed, how many hours per day one was asleep, or how often one meditated per week. Sociologists researching the way post-industrial capitalism insists on an increase in productivity link the obsession with measurement to new forms of social control. The subject is constantly under pressure to produce more, to be quicker, and is especially anxious about his or her employment. Keeping track of one's productivity at the workplace has, however, in recent decades expanded into keeping track of one's private life. The ideas of achievement, success, and happiness that have been part of the dominant ideology in post-industrial capitalism have opened up the doors to the wellness industry (Cederström and Spicer, 2015) and self-help enterprises, which have become the prime promoters of the idea that with the help of proper measurement, tracking, and self-control, the subject will be able to come closer to attaining these ideals.

The first problem with plans for self-improvement is that most of the time people do not follow them for a long time; the second is that these plans often increase a person's anxiety and feelings of guilt; and the third is that the new technologies that we now use to monitor our progress allow for the collection of data about us that can be used and abused in ways we cannot easily imagine.

Embarking on a quest to change one's habits might mean constantly failing to follow a particular plan. Personal measurement and tracking appear to be strategies that can make the process of self-transformation more manageable and predictable. The numbers that we record on our devices are also supposed to help us not succumb to temptation. They seem to be contemporary self-binding mechanisms.

Looking far back into the past, Homer was aware of the necessity of self-binding, which is why his Odysseus ties himself to the mast in order to not succumb to Siren's song. John Elster (Elster, 2016) links self-binding to various strategies whereby people try to pursue their quest to change a particular behaviour. If we, for example, want to stop smoking, we might tell everyone around us of our intention and by doing so we might be less inclined to light a cigarette in their presence. Such strategies of self-binding rely on the feelings of guilt and embarrassment that people experience in the presence of other people.

Paradoxically, the Internet allows for the creation of self-binding strategies that also rely on these feelings, even though people do not necessarily have face-to-face contact with people online. People who try to lose weight and log their food intake into an online forum daily might experience feelings of guilt when they do not follow their diet plan and, for example, admit their food indulgences to anonymous strangers online.

One cannot deny that feelings of guilt can be a powerful motivator when people try to change their habits. If online communication with anonymous interlocutors can contribute to these feelings, the question remains whether that happens also when people try to change their lives with the help of various monitoring devices.

The failure of self-monitoring

Although people fervently download apps that are supposed to monitor their progress, the majority soon forget about them and for one reason or another stop measuring their progress. Researchers who study motivation and attempt to ascertain why apps are so easily forgotten rediscovered Aristotle's term "*akrasia*" which in antiquity described how a person acts against his or her better judgement. Today this term is supposed to depict a form of procrastination when people do not follow through with their plans. (Clear, 2016)

A number of interesting studies about the failure to follow our plans with the help of tracking devices have been carried out in the field of medicine. One study looked at the link between physical activity and monetary compensation. People who were asked to monitor their physical activity and got paid for increasing the total number of steps they walked per day usually abandoned their fitness goals when they stopped receiving money for their efforts. (Finkelstein et al., 2016) During the study, when the subjects were financially compensated for being more physically active, it looked like

they were easily able to change their lifestyle and improve their health. Although the expectation was that their increased wellbeing would help them continue with the plan when money ceased to be the motivating factor, for the majority of participants this was not the case. When the financial benefit ended, most of the participants became less physically active.

While it might be debatable whether money should be used as an incentive to change one's habits (Sandel, 2013), for our argument here it is interesting to look at the failure of self-monitoring through the lens of psychology and psychoanalysis. In the last two decades, psychological studies on willpower have relied heavily on a study (Baumeister, Bratslavsky, Muraven, and Tice, 1998) that tested the willpower of people by means of two different exercises. Baumeister and his colleagues first examined people's willpower by instructing two groups of people on what to eat. Both groups had chocolate cookies and a bowl of radishes presented in front of them. One group was asked to eat only radishes, while the other was allowed to eat cookies. The idea was to measure how much self-discipline it would take for the radish-eating group to resist the cookies. After this experiment, both groups were asked to solve puzzles that, however, were unsolvable. The surprising result was that the group that was allowed to eat cookies spent much longer on trying to solve these puzzles, while the radish eaters gave up more quickly. The explanation for this behaviour was that willpower is like a muscle that can be strengthened with regular exercise, but using it too much can deplete its strength. If we use willpower for one task we might not be as effective in using it for another. The radish eaters used up their willpower and that prevented them from being more persistent with regard to solving the puzzle, while the cookie eaters, who did not need to use their willpower in the first experiment, were able to use their willpower in the second experiment.

In the last few years, the failure to replicate Baumeister's experiment (Hagger et al., 2016) has led psychologists to conclude that "willpower *isn't* a limited resource, but believing that it is makes you less likely to follow through on your plans." (Burkeman, 2017) If we presuppose that trying to restrain ourselves with regard to one temptation will exhaust our willpower and as a result we will be less likely to follow through with another project, it will actually happen that we will use less willpower in the second case. However, if we do not presuppose that there is something like "willpower fatigue", that will not happen.

Other studies in the domain of willpower have tried to tie the ability to follow self-formulated plans to change one's behaviour with emotions. Some self-help books thus advise people to observe which emotions they experience when they try to follow particular plans to change and advise people on how not to use up all their energy to deal with these emotions but rather engage in altering their environment so that it helps them pursue their goals. (McGonigal, 2013)

And here we come to apps and wearable technology, which is supposed to be something that manipulates the environment in such a way that it is easier for people to follow through with plans for personal change. Since people might download many apps and buy wearable devices, but can easily "forget" to track whatever they planned to track and thus do not achieve their goals, more and more of these devices attempt to increase feelings of guilt and anxiety. The idea is that people will be more inclined

to follow through with their plans if they are anxious that they will be punished for their failures.

Apps and self-punishment

A wristband device called Pavlok offers people a way to impose self-punishment when they do not follow through with their plans. A Pavlok wearer has the possibility to zap him- or herself if he or she is tempted to pursue a behaviour that he or she would like to alter. With this action, Pavlok is supposed to arouse our inner voice, which will say to us: ‘Wake up sleepy head... it’s time to go to the gym!’, ‘Put down those chips!’, or ‘Stop wasting time on Facebook!’. The makers of Pavlok claim that this device helps unlock people’s true potential, making them accountable for their behaviour and better able to change it when needed. This device relies on the idea that with the help of conditioning exercises similar to the famous experiment Ivan Pavlov performed on a dog at the beginning of the 20th century, one can alter people’s behaviour. Pavlok wearers testify that they were able to change their bad habits of overeating, nail biting, hair pulling, and oversleeping because they started associating the feeling of being zapped with a prohibition on engaging in the bad habit.

Pavlok seems to be an ideal accessory in an era when external prohibitions linked to traditional authorities are on the decline, and when people are increasingly imposing prohibitions on themselves. The idea that people need to constantly work on themselves and engage in various forms of self-improvement is the basis of the majority of apps and wearable devices. The invention boom related to these devices has raised the question of whether one truly needs to control and measure so many things in one’s life and what people gain with this multitude of apps.

Kerastase, a producer of hair care products, is, for example, planning a new hairbrush, designed together with the tech company Withings. This “smart” hairbrush is supposed to assess how people treat their hair. With the help of a built-in microphone, the brush will listen to how people style their hair and then try to determine how frizzy or dry their hair is and even whether they have split ends. (Weatherford, 2017)¹

Another example is Apple, who together with Nike created the Apple Watch Nike+, which comes in two sizes and features built-in GPS tracking, a perforated sports band for ventilation, Nike+ Run Club app integration, and exclusive Siri commands to start a run. On top of that, the watch is equipped with push notifications that are supposed to make us more prone to exercise. The Nike+ Run Club app entices wearers to run by offering daily motivations through smart run reminders. “Are we running today?”, for example, appears on the watch at the time when the person usually goes for a run. The app also sends challenges from friends and even alerts runners about the weather outside. It is not just that training data, including pace, distance, and heart rate are available at a glance, one also shares run summaries with one’s friends, which is supposed to promote friendly competition. The app even allows users to send fist bumps to each other right from the wrist as a form of encouragement.

¹ The explanation is that the brush works in such a way that “three-axis load cells measure the pressure you exert on your hair and scalp as you brush, and sensors count the number and speed of brush strokes, and gauge if hair is being brushed wet or dry.” (Weatherford, 2017)

Constant nagging, comparison with others, and even punishment are tactics that new technologies are adapting in their attempt to make people follow their life-improving plans. For some, these apps might be of help when they try to change their habits, but one should not forget that the whole ideology behind self-improvement, which is linked to ideas concerning choice and success, contributes to feelings of inadequacy, anxiety, and guilt. Paradoxically, these feelings are an important underside of the post-industrial ideology of choice, which stresses the power of individual rational choice and to a much lesser degree issues that are a part of social choices where the state and other power players are in charge. (Salecl, 2011)

One way we deal with these unpleasant feelings is by taking the device not as a surrogate super-ego voice that is supposed to replace our internal super-ego injunction that makes us feel guilty, but rather as an object that somehow does the job instead of us. Austrian philosopher Robert Pfaller coined the term *interpassivity* in order to describe people's strategy when a device takes on the role of an intermediary that performs certain acts instead of the person. (Pfaller, 2009) An example is a person who constantly records movies, but never watches them. By recording the films, it is as if the person is allowed to do other things while the recorder "watches" the movie for him or her.² Similarly, when a person makes a photocopy of a book that he or she never reads, it is as if the photocopier enjoys the book instead of the person.

One can take tracking devices as these kinds of objects that are doing the job for us. When I download a daily planner or a fitness app I can easily continue to not do the task I planned, since the app is a stand-in to which I somehow delegate the enjoyment of doing it for me. The very act of downloading is already an act of work, even a moment of sacrifice (if I had to pay money for it). After I have completed this task (and sometimes it does not go easy), I can for a short while play with it, but soon the very fact that I have downloaded it will be enough – I can go on doing whatever I am doing, while the app is supposed to do the work for me.

Let us take the example of a meditation app. I download it, maybe pay for it, do some meditations that it guides me to do, but in a few days I forget about it. Since I have it on my device, the app becomes a stand-in for my meditation practice. Invoking the term *interpassivity*, it can be said that the app is doing meditation for me, while I can go on doing my other things.

If I can easily forget the app that I have downloaded and if the very fact that I have downloaded it seems to be already enough for me to feel content with myself, the problem is that the app does not forget about me.

Ignorance and big data

While most of the discussions about wearable technologies focus on the question of whether they work or not in changing people's behaviour and how it is that people so easily ignore these devices, another form of ignorance – the one that pertains to the data that these devices collect about people – has been under far less scrutiny.

² Pfaller expanded his theory to works of art. In exhibitions of contemporary art it often happens that the visitor does not have an idea what the works of art he or she is observing are all about. When walking around the exhibition, the person, however, can have the impression that the curator somehow viewed the exhibition for them. (Pfaller, 2009)

Amy Pittman recalls a time when she was trying to get pregnant and became enthusiastic about a period tracker. As she points out:

“Like many 20-somethings, I have an app for just about every important thing in my life. I have a health tracker that I ignore, a budget tracker that I ignore, an app to pay my bills that I try to ignore, and a period tracker that I’m obsessed with. Every week, I religiously tracked my mood on the period tracker along with my core temperature, the viscosity of various fluids, how often my husband and I were having sex, if sperm was present, etc. The app had more intimate knowledge of my reproductive behavior than my husband or any doctor. On the day of my positive pregnancy test, I logged into my period tracker to share the good news. When I did, it suggested a pregnancy app, which I downloaded immediately. It was full of bright colors and interactive graphics.”(Pittman, 2016)

Sadly, Pittman soon miscarried. At that moment, she deactivated her pregnancy-monitoring app. But logging off from the app did not prevent various marketing companies that target expecting women from continuing to send her info on pregnancy and baby products. The maker of her pregnancy app sold her info to marketing companies, however, when Pittman logged a miscarriage into the app and stopped using it, that information was not passed along. Pittman describes her shock when:

“Seven months after my miscarriage, mere weeks before my due date, I came home from work to find a package on my welcome mat. It was a box of baby formula bearing the note: “We may all do it differently, but the joy of parenthood is something we all share.” (Pittman, 2016)

A whole new surveillance domain has opened up with the help of big data that allows commercial companies, as well as the state, to monitor people’s daily lives. It is possible to ascertain that at the start of this massive collection of data people did not have an understanding of the market related to data collected about them. With various media addressing the problem of surveillance, however, it has become clear that it is not so much a lack of knowledge that is at work in the way people deal with their personal data, but rather a problem of ignorance.

The French psychoanalyst Jacques Lacan made a puzzling statement when he said that people do not have a passion for knowledge, but rather a passion for ignorance. Lacan observed that although his patients come to analysis with the desire to learn about what is guiding them in their unconscious, in the process of analysis they will go to great lengths to not come close to some traumatic knowledge. (Lacan, 2007)

Sigmund Freud, in his own time, also established the importance of not knowing. He looked at the strategies of negation that people adopt when they deal with something traumatic. One of Freud’s patients during his analysis described a dream and all of a sudden uttered: “The woman in my dream is not my mother.” (Freud, 2001) What was surprising about this sentence was that Freud had not implied that the woman in the man’s dream could be the patient’s mother. The negation was coming from the patient, and with this negation the patient was naming something and saying that something is not true.

Freud's explanation is that we are dealing here with a repressed idea, which emerges into consciousness by way of being denied. Negation becomes a way of making cognizant what is repressed in such a way that it labels the repressed idea. Through negation we therefore in some way reveal traumatic truth, i.e. negation is the first sign of recognising that truth, but not yet accepting it, which is why we resort to denial.

For Freud, denial becomes both a testimony to the uncompleted task of recovering content from the repressed and some kind of a substitute for repression. It is, however, important to distinguish between denial and a lie. While a conscious lie would be an act to deceive, denial would rather be an act of impotence. (Ver Eecke, 2006: 34)

When we deny something we inadvertently reveal what we wanted to hide. That is why denial also entails the opening up of a crack or fault, where a thought we were previously not conscious of suddenly emerges, which is why Freud, paradoxically, linked negation to the idea of freedom. He pointed out that when we have this crack, when through denial something emerges that is linked to traumatic truth, there is a possibility that the subject will start working through what had been repressed. It is, however, also possible that the subject will resort to new forms of repression.

How is big data related to denial? When we connect ourselves to all kind of apps and tracking devices, often the last thing on our mind is what will happen to the data such devices record. Often, it is as if one does not perceive data to be related to oneself or even that one does not think there is data collected and passed on in the first place. We thus simply ignore that information about ourselves is collected, and that this information might be sold and in various ways used for surveillance and marketing purposes.

Denial, however, becomes more complicated if we look at the content of the knowledge people often do not want to engage with. Studies in the field of denial have observed particular ways in which people deal with traumatic information in the domain of medicine. (Dorpat, 1987) Shlomo Breznitz observed seven different kinds of denial among his patients. (Breznitz, 1983) They often went from one type of denial to another; however, when a situation gets worse people often tend to regress to a more "primitive form of denial."

The first type of denial involves the negation of personal relevance. An example here is a study where a group of coronary patients witnessed a fatal cardiac arrest when they were in hospital. These patients, however, did not think that something like that could happen to them, too. The second is the denial of urgency. There is the example of people who in the past experienced a health emergency (a heart attack or cancer) and then delay calling for help when they experience a reoccurrence of the health problem. The third involves the denial of one's vulnerability. Here, the cases involve people who feel that because they changed their lifestyle (they exercise, eat well, etc.) they are somehow protected from having another health crisis (for example, a heart attack). Another form of denial of one's vulnerability involves people who completely give up their responsibility and perceive a heart attack as simply a matter of luck, fate, or other such uncontrollable factors. The fourth type of denial involves denial of the effects related to the traumatic experience that they went through. People who experience a heart attack might, for example, completely deny the anxiety related to this near death experience. The fifth type of denial involves people who experience

certain affects and emotions in a life-threatening situation, however, they attribute them to other causes and not to the illness they are dealing with. Anxiety related to some rather insignificant issue can become a substitute for the life-threatening situation. The sixth form of denial involves the denial of information. A person might thus on a conscious level block any relevant information with regard to their illness and even disregard the advice they have been given by their doctors – i.e. coronary patients might stop exercising, not follow their prescribed diet, etc. On the unconscious level, however, they might very well have registered the information while they consciously deny it. The seventh form of denial pertains to severely depressed patients and to cases of psychosis where there might be indiscriminate denial of all information and the patient just seems to be in his or her own world, where the information regarding his or her health is simply not taken in. People might form delusions about their health that enable them to hold it together, however, their doctors' information about the illness is completely rejected.

With regard to big data and Internet security related to all kinds of information about us that is collected, we can observe a similar list of denials. Some people might have witnessed or read about cases of personal data being mishandled, but they do not think that something like that can happen to them. Others might not be bothered at all that their data is passed to corporations or the state. Still others might be anxious that someone might be listening in to their phone conversations, but are not bothered that data about their life are recorded by a fitness tracker. A person might also have the delusion that there is a camera recording his or her daily activities, while he or she does not take in the problem that his or her data are being collected by mobile phone apps.

Nancy Tuana (Tuana, 2006) created a taxonomy of ignorance wherein she distinguishes four different ways we engage with the problem of not knowing:

1. knowing that we do not know, yet do not care to know;
2. not even knowing that we do not know;
3. not knowing because (privileged) others do not want us to know;
4. wilful ignorance.

If we apply this taxonomy to big data, we can observe all four ways of not knowing at work in the way people engage therewith. We might not know what the data collected about us is used for and not care about it. We might not know that we do not know what happens with the data. It is possible that companies that collect the data do not want us to know. And it is also possible that we resort to wilful ignorance, i.e. in this case, we know that data is collected, that it is sold, and that it can be abused, but we simply resort to not caring about it.

Another explanation of ignorance with regard to big data is that people are concerned that data is collected for potentially powerful uses that are not fully understood. (Andrejevic, 2014: 1682) Here, ignorance does not so much pertain to the fact that data is collected, but to dealing with the question of how it is used. A person might thus be aware of the collection of his or her data, however, the word of corporations who traffic in this data, the mechanisms of data mining, and the working of algorithms is something so alien and opaque that he or she cannot envision what such data can be used for or how it can be manipulated.

Jacques Lacan pointed out that ignorance is not misrecognition. When we misrecognise something, there has already been a level of knowledge that has first been recognised and then in the next step misrecognised. (Lacan, 1988: 167/8) With regard to big data, misrecognition would be when we know that data is used in a manipulative way, but we misrecognise that as something beneficial. Ignorance, however, has to do with the fact that we close our eyes to knowledge that is too traumatic for us to bear. It might very well be that the opaque world in which data is used presents something so traumatic that we would rather close our eyes and do not want to come close to traumatic knowledge. Which is why we often so blindly consent to whatever Internet and app providers require us to do.

Informed consent

Whenever we download apps, sign up for free Internet in public spaces, register for loyalty cards, or put on wearable technology we are usually asked to tick a box that asks for our consent to the collection of data. Most often, we do this without reading the long document that in small print and in bureaucratic and legalistic language informs us of the rights of the service provider. We automatically click on the consent form and hope to start using the service without further interruptions. If we so easily ignore what we have given our consent to, one must question the purpose of engaging a customer in this game of consent.

The contemporary idea of informed consent originates in medicine. (Murray, 1990) Its underlying presumption is that a person is a rational subject who can in an impartial way assess the information presented and then make a rational choice with regard to his or her well-being. The perception is also that a person who consents to a particular action has a clear understanding of the consequences and implications of such action.

The idea of informed consent historically emerged as a result of various forms of abuse that happened in the domain of medicine. The most important were the medical experiments performed in Nazi Germany on prisoners in concentration camps. Cases where people were either deceived or coerced to take part in medical research or when people were not informed of the possible outcomes of certain medical procedures also contributed to the demand that consent become an important part of the interaction in the domain of medical practice and research. Struggles against paternalism in medicine, as well as appeals for respect for the autonomy of the patient have also contributed to the promulgation of the idea of informed consent. (Manson, 2007)

Medical ethicists discuss many dilemmas related to informed consent – from the question of what it means to be properly informed, to the capacity to make decisions, legal aspects of consent, to cases of the exclusion of consent (with regard to children, mentally disabled patients, etc.). Rarely, however, do discussions touch on the conscious and unconscious mechanisms that guide people in their decision-making and also in their refusal to make such decisions. What is equally neglected in discussions on informed consent is the embracement of ignorance on the side of the patient as well as on the side of the authority in charge of drafting the consent form (e.g. a medical institution).

For an informed consent to become a viable legally-enforceable contractual document, it needs to encompass a certain perception of the subject as a rational person capable of making decisions that contribute to his or her well being. Both the illusion of rationality as well as the illusion of the utilitarian tendencies of people underpinning the idea of informed consent. Dilemmas related to the unconscious mechanisms that guide people, as well as the fact that people often do not follow utilitarian ideas about maximising pleasure and minimising pain had to be refuted.

This illusion of rationality is a necessary prerequisite for the establishment of the contractual relationship between the patient and the doctor (as well as the medical institution). In our highly litigious times, informed consent, however, has opened the doors to new forms of ignorance on the side of the patient. When we undertake the most insignificant medical procedure, we need to sign a document where we agree to all kinds of possibly damaging outcomes of these procedures. One usually quickly glances over the text and signs the form without actually fully rationally digesting the information presented. Here we embrace various forms of denial, which are not so different from the above-mentioned denials.

We might engage in wishful thinking that all the disasters that can happen during the procedure will not happen to us. We might also deny the effects that the information on such disasters provokes in us. Or we might deny that there is a rational logic presented in the document as such. Since we know that informed consent forms are cut and paste documents that are used for various situations, we might perceive them as merely legal gibberish that acts as a protective shield for the medical establishment.

Without this ignorance, it is quite possible to envision that a person who took seriously the warning as to what might go wrong as presented in the informed consent document would not choose to undergo the procedure or might become extremely anxious or even paranoid.

A similar situation is at work in our dealings with the Internet. If we were to read all the various informed consent documents that we blindly agree to, it is quite possible that we would not install the majority of apps on our phones, put on wearable technology, or connect to open Internet servers.

The problem with informed consent is that it primarily protects the provider of a service, while for the consumer it more and more presents a case of a forced choice. We are offered a choice to either consent to giving away our data or not. However, if we say no, we lose the very possibility to enjoy the device that collects the data. Similarly, if we do not consent to allow ourselves to be monitored by Internet providers we are denied connection to the Internet in the first place. In cases of forced choice, one is in principle offered a choice, however, this choice involves only one option. In a way, choice is offered and denied at the same time.

An example of forced choice existed in socialist Yugoslavia when young men were obliged to serve in the army. When young men became conscripts, they had to go through a ritual where they took an oath saying that they freely chose to become a member of the Yugoslav army. However, one man took this choice seriously and said that since becoming a member of the army was a matter of choice, he chose not to

join it. When this happened, he was immediately sent to prison. The choice in question was offered and denied at the same time.

Lacan explained the idea of forced choice by envisioning a situation wherein a man is confronted by a robber who demands: “Your money or your life!” This demand puts the man in a position of forced choice. If he chooses his money, he will lose his life and thus will not be able to enjoy the wealth that he saved. The only choice that is left to him is his life, which, however, will be less enjoyable since he will lack money. (Feldstein, Fink, and Jaanus, 1995: 47)

Similarly, when we are asked to consent to the use of devices that track our data, we are offered a choice: enjoy our app, but give us consent to do with your data what we will or you can have your life without the app. The choice is thus between life without data or digital death.

Machines cannot be wrong

While we blindly consent to giving our data away, we often also blindly place our trust in the machines that handle such data. Belief in the power of computers is such that we often do not even envision that serious mistakes can be made in the way they work.

A few years ago, I presided over a panel that evaluated the output of research groups. I was not linked to these research groups and the evaluators were from abroad. This setting was supposed to allow for an objective account of the researcher’s work, which, of course, had serious implications for their future funding. My job was fairly simple. On top of facilitating the evaluators’ reports, I had to put their marks into an Excel spreadsheet, which in the end would automatically calculate the results, providing me with a list of winners and losers. I meticulously recorded the marks into Excel so that potential errors might not affect the results. In the end, I got the results and the evaluation was done. A few hours later, I looked at the form again and had the feeling that something was amiss. Groups that consistently got good marks from the evaluators were not as high on the list of results as I had expected. I rechecked whether I had put all the marks into the form correctly and it all looked fine. I clicked the calculation button again and got the same results as before. Frustrated, I decided to do the calculation by hand. To my surprise, the results turned out different. I denied the possibility that the computer might be wrong and decided to do the calculations one more time. Finally, I had to acknowledge that the spreadsheet had not been formulated properly. When I contacted the agency that had set up the Excel spreadsheet at first no one believed me that the machine had produced the wrong calculation. Finally, the IT personnel confirmed that there was an error in the algorithm which, as a result of my complaint, they were able to solve. Until I had that experience, I was a very trusting user of similar forms. Subsequently, I started wondering how many similar calculation mistakes are at work in our computer-dependent work and why we do not pay more attention to them.

In the world of big data, we must not only deal with potential computer failures, but also a high level of opacity related to how this data is collected, how it is interpreted, who has access to it, and how it can be manipulated. We also deal with sample bias,

as well as an increased desire to see in data what we want to see in the first place. In addition, the way companies use algorithms to comb through data is usually secret.

It is thus not surprising that big data is opening new avenues of blindness. Paradoxically, when we collect a great amount of data, suddenly people start seeing patterns in random data. Researchers of big data thus point out that we are experiencing apophenia: seeing patterns where none actually exist, simply because enormous quantities of data can offer connections that radiate in all directions. (Dugain and Labbe, 2016)

One of the ways we often deal with blind spots is by trying to visualise them. ‘Gaps’, cracks in knowledge, are in a particular way linked to the fantasies we create around them. Art provides one way to look at these gaps. Contemporary art has been fascinated with the new developments in science. We can thus find numerous artists who use brain images, genetic code, and knowledge from the fields of astrophysics and physics in general in their art. Not surprisingly, big data has also found its place in the domain of art. The Norwegian artist Toril Johannessen, for example, in her art project “Words and Years” uses big data to create pictures that try to alert viewers to important themes in today’s world. Combing through data in scientific journals, she created a picture that shows when and with what frequency the word crisis is used with regard to nature or society, how often the word miracle is used with regard to nature and society, and how many articles in the field of genetics deal with the words greed and desire.³

Even before the rapid development of statistics, artists collected data and used them in art works. In the 1980s, the Russian artists Vitaliy Komar and Alex Melamid, for example, conducted surveys in different countries asking people what a beautiful painting looks like and what an ugly one looks like. Following the results of the survey, they then produced an ideally beautiful painting and an ugly one. Quite universally, the result of the surveys was that people perceived as beautiful paintings those that showed scenes of nature with mountains, with a sunny sky, and an animal in the setting, while they perceived as ugly paintings that consisted of abstract triangles in dark, unappealing colours. Both the most beautiful and the most ugly painting used the mean results of the artists’ surveys. (Dissanayake, 1998) Observing the beautiful and ugly painting that they then painted incited in the viewer an uncanny feeling – trying to comply with people’s idea of what beautiful or ugly painting looks like took away the edge of surprise that often accompanies good art work. By taking seriously what people perceived as beautiful and what as ugly art, the artists tried to put into words and realize in an image what usually cannot be grasped in a rational way. What makes an art work great usually escapes words, which is why it is not easy to rationally describe what makes one art work beautiful and another ugly.

In order to depict the nature of what cannot easily be put into words and what escapes people’s rational perceptions of themselves as well as the world around them, Jacques Lacan used the term “the real”. This term does not pertain to what we usually understand as reality, but rather to what escapes the perception of reality that we form with the help of language as well as images.

³ http://www.toriljohannessen.no/Words_and_Years_page_1.html.

In today's times we have various attempts to come close to this real with the help of science and new technology. Genetics and neuroscience, for example, give us the perception that decoding the genome and perfecting brain scans might help us comprehend what makes us human. Big data, in its own way, tries to closely approach the secret of subjectivity. These attempts, open up the space for new fantasies to be formed around the ungraspable in subjectivity. Dominique Cardon points out that we need to ask what algorithms dream about and how they operate on human desires. Although we are often under the impression that with the help of algorithms we can escape the "tyranny of the centre" and enable the diversification of society, which as a result will hopefully be less hierarchical, in reality the opposite is true and algorithms allow for the perpetuation of inequalities. And we should not forget that the devices that provide data are also becoming objects with the help of which new forms of hacking attacks can easily become carried out.

One of the most surprising cyber attacks happened in the US in 2016 when a large number of security cameras and other domestic devices were infected with a fairly simple program that guessed their factory-set passwords – often "admin" or "12345" or even "password". Once these devices were infected, they were turned into an army of simple robots, which at a coordinated time were then instructed to bombard a small company in Manchester, N.H., with messages. This attack overloaded the circuits of the company. This company functioned as one of the Internet's giant switchboards, so as a result of its failure numerous US companies such as Twitter, Reddit, Airbnb, and even The New York Times lost their Internet connection or it slowed to a crawl. (Sanger and Perlroth, 2016)

While many experienced this Internet attack as a fleeting inconvenience, it portends much more. In the era of the Internet of Things, the problem is not only that such hacks happen in interconnected refrigerators and security cameras, but that they are also happening to a growing number medical instruments and recreational devices — such as heartbeat-monitoring watches — that report medically-relevant information. Cyber-security for these devices is increasingly becoming a big problem, since state regulations that pertain to financial data often do not pertain to health care records. (Haun and Topol, 2017) Taking into account the fact that these devices are portable, one encounters problems related to their security that go beyond state jurisdictions. Which is why some cyber security experts are calling for industry-wide cooperation in the adoption of security standards before some major hack occurs, while others are trying to teach people how to protect themselves from having their devices hacked and their private data appropriated by new types of cyber criminals.

Conclusion

We often glorify the pursuit of knowledge; however, the desire to not know is equally important for our survival. Closing our eyes, not seeing something that is traumatic, or not remembering what has been painful and hard to deal with are strategies that people have embraced with a passion equal to that with which they have embraced the pursuit of new knowledge.

In order to understand the nature of such ignorance, we can say that it in some way allows a person to not come close to what is traumatic. In our private lives, repression

helps us push away what is for us consciously hard to comprehend. But with ignorance, it is as if we have all the information but it does not pertain to us. An individual, for example, can have information about a threat, but behave as if it does not concern him. This kind of ignorance paradoxically contributes to a feeling of omnipotence; we perceive ourselves as being more powerful than we actually are. Such feelings of omnipotence can contribute to belief in the idea of technological development and progress that does not allow for seeing the negative consequences thereof.

If we compare ignorance of the use of big data with the denial that can be observed with regard to climate change, we can see a similarity at work in the way these two forms of closing our eyes deal with the idea of progress. People in the developed world are afraid to admit that the belief in development that underlies modern capitalism is in fact something that cannot last forever. People are also afraid to face the prospect that climate change might actually lead to a decline in economic growth, and that any government intervention in the market through various mechanisms of controlling carbon dioxide emissions and introducing penalties for corporations might also imply loss of the idea of freedom, which for many people is related to the idea of the free market. Even those who are aware of the warnings that scientists are issuing as to climate change often have various strategies enabling them to believe that these warnings do not affect them per se. People often deny both that climate change means that they themselves need to do something and that society needs to change its course as regards what it perceives as development.

This denial is often related to the fact that a lot of people are afraid of change and that they are anxious about what potential changes might mean as regards their future. People might also be afraid that the future will not involve the idea of progress, which they hope will continue. Clive Hamilton warns that the climate change bill will be received by the next generation, since it will entail a bill issued for the incredibly rapid development of the past, which is based mainly on energy that we obtain from fossil fuels. (Hamilton, 2015) Prosperity is important for the current generation, something that allows this generation to live longer, healthier lives in the developed world. The problem of this generation, however, is that it has not paid the full price of this progress. The rest of the price will be charged to future generations.

With regard to big data, we also have an over optimistic idea of how this data contributes to progress. Here, too, the price for this belief will be paid by future generations. On top of problems involving the mismanagement of data, bombardment by consumerism, and new forms of surveillance, future generations will need to deal with the fact that it never consented to its data being collected from the moment of conception. Which is why researchers dealing with the problems of big data warn that our ideas of privacy and informed consent do not encompass the fact that data on children are nowadays being collected on a massive scale without them being able to control or comprehend the impact this will have on their future lives. (Lupton and Williamson, 2017)

Optimistic big data researchers like to point out that big data need not be regarded simply from a negative perspective, i.e. people can be empowered to use data to their advantage and that data that is available through open access can significantly contribute to scientific research and social change.

Proponents of big data thus like to point out that an individual should have access to his or her data so that he or she can make full use of it. The idea is that a person's tracking devices and computer know more about his or her habits than he or she consciously does. Knowing about the data that is collected about oneself will help one better navigate life. Mark Andrejevic warns against such enthusiasm by pointing out that there exists a great discrepancy in power between those who collect big data and those who are the objects of such collection: "Even if users had access to their own data, they would not have the pattern recognition or predictive capabilities of those who can mine aggregated databases. Moreover, even if individuals were provided with everyone else's data (a purely hypothetical conditional), they would lack the storage capacity and processing power to make sense of the data and put it to use." (Andrejevic, 2014: 1674) One can add to this the observation that psychoanalysis, already at the time of Freud, observed that, sadly, people might rationally state that they are concerned about their well-being while unconsciously they do everything that goes against this idea. They thus often do not follow their rationally proclaimed goals, but rather continue on the path of pain, guilt, and even self-punishment.

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